

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of	)	
Wolfgang SCHEEL et al.	)	Group Art Unit: Unassigned
Application No.: Unassigned	)	Examiner: Unassigned
Filed: Herewith	)	Confirmation No.: Unassigned
For: MULTILAYER PRINTED BOARD	)	

**INFORMATION DISCLOSURE STATEMENT**  
**TRANSMITTAL LETTER**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed is an Information Disclosure Statement and accompanying form PTO-1449 for the above-identified patent application.

- ☒ [X] No additional fee for submission of an IDS is required.
- ☐ [ ] The fee of \$180.00 (1806) as set forth in 37 C.F.R. § 1.17(p) is also enclosed.
- ☐ [ ] A statement under 37 C.F.R. § 1.97(e) is also enclosed.
- ☐ [ ] A statement under 37 C.F.R. § 1.97(e), and the fee of \$180.00 (1806) as set forth in 37 C.F.R. § 1.17(p) are also enclosed.
- ☐ [ ] Charge \$\_\_\_\_\_ to Deposit Account No. 02-4800 for the fee due.
- ☐ [ ] A check in the amount of \$\_\_\_\_\_ is enclosed for the fee due.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800. This paper is submitted in duplicate.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: 26 August 2003

By: M. David Ream  
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P.O. Box 1404  
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(703) 836-6620

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**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure as set forth in 37 C.F.R. § 1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98.

An English language Abstract of JP 5-090720 is filed herewith.

Japanese publication No. 9-270573 is listed on the International Search Report of the PCT International Application corresponding to the present application as an "A" reference that defines the general state of the art and is not considered to be of particular relevance. Japanese publications No. 7-249847, No. 5-175625, No. 5-82929, and No. 1-298788 are listed as "X" references that are considered to be "of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone."

1. Yoshiyuki Iwata *et al.*, "New Ceramic and Plastic Composite Substrate for Face Down Bonding and Large Size Silicon Chip Mounting", Proceedings of the Electronic Components Conference, U.S.A., New York, IEEE, vol. CONF. 37, 11 May 1987 (1987-05-11), pages 392-397.
2. N.N., 2. Leitron-Symposion '85, IN: Galvanotechnik 76 (1985) Nr.12, pages 2070-2073.

3. Huschka, M., Substratauswahl für SMT-Anwendungen. In: Galvanortechnik 80 (1989) Nr. 12, pages 4421-4426.

Statements of Relevance:

The two documents listed as items (2), (3) above (the "N.N." and "Huschka" documents), which are in the German language, each disclose a multi-layer system providing special layers that control thermal expansion behavior. The "N.N." document discloses that the special layers consist of polymer-quartz, polymer-polyaramid or ceramic substances. The "Huschka" document discloses using copper-Invar™-copper layers or special Kevlar™ layers. On page 4424, right-hand column, the "Huschka" document states that basically the use of a woven glass substrate is possible but very complicated for production purposes.

The "Yoshiyuki Iwata" listed as item (1) above is a document in the English language, that is characterized in the International Search Report as an "X" reference that is "of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone." The International Search Report was issued with respect to a foreign application corresponding to the present U.S. application.

All of the listed documents were previously made of record in prior Application Serial No. 10/173,625, filed 17 June 2002, upon which Applicants rely for the benefits provided in 35 U.S.C. § 120. In accordance with 37 C.F.R. § 1.98, a copy of each of the listed documents, except those documents which were previously made of record in the prior application, is enclosed.

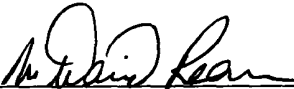
The documents are being submitted within three (3) months of the filing or entry of the national stage of this application or before the first Office Action on the merits, whichever is later. Since documents are being filed within the time period set forth in 37 C.F.R. § 1.97(b) no fee or statement is required.

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner-initialed copy of this form be returned to the undersigned.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: 26 August 2003

By:   
M. David Ream  
Registration No. 35,333

P.O. Box 1404  
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Substitute for forms 1449A/PTO & 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>	ATTORNEY'S DKT NO. 033033-011	APPLICATION NO. Unassigned
	APPLICANT Wolfgang SCHEEL et al.	
	FILING DATE Herewith	GROUP Unassigned

U.S. PATENT DOCUMENTS				
Examiner Initials	Document Number	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Issue/Publication Date (MM-DD-YYYY)
	5,896,650		Nishide et al.	04-1999
	4,812,792		Leibowitz, Joseph D.	03-1989
	5,306,571		Dolowy et al.	04-1994
	4,318,954		Jensen, Warren M.	03-1982
	5,073,840		Coors, William G.	12-1991
	4,491,622		Butt, Sheldon H.	01-1985
	6,136,733		Blumberg et al.	10-2000
	5,687,062		Larson	11-11-1997
	4,939,021		Aoki et al.	07-03-1990
	4,882,455		Sato et al.	11-21-1989
	4,609,586		Jensen et al.	09-02-1986
	5,571,608		Swamy	11-05-1996

FOREIGN PATENT DOCUMENTS					
Examiner Initials	Document Number	Kind Code (if known)	Country	Date of Publication (MM-DD-YYYY)	Translation Yes No
	409307112	A	Japan	11-1997	
	1-298788		Japan	12-01-1989	
	5-82929		Japan	04-02-1993	
	5-175625		Japan	07-13-1993	
	7-249847		Japan	09-26-1995	
	9-270573		Japan	10-14-1997	
	5-090720		Japan	04-09-1993	
	5-090720 Abstract		Japan	04-09-1993	X

NON PATENT LITERATURE DOCUMENTS	
Examiner Initials	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	International Search report dated April 11, 2001.
	Yoshiyuki Iwata <i>et al.</i> , "New Ceramic and Plastic Composite Substrate for Face Down Bonding and Large Size Silicon Chip Mounting", Proceedings of the Electronic Components Conference, U.S.A., New York, IEEE, vol. CONF. 37, 11 May 1987 (1987-05-11), pages 392-397.
	N.N., 2.Leitron-Symposion '85, IN: Galvanotechnik 76 (1985) Nr. 12, pages 2070-2073.
	Huschka, M., Substratauswahl für SMT-Anwendungen. In: Galvanortechnik 80 (1989) Nr. 12, pages 4421-4426.

Examiner Signature		Date Considered	
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with M.P.E.P. § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. **SEND TO:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.